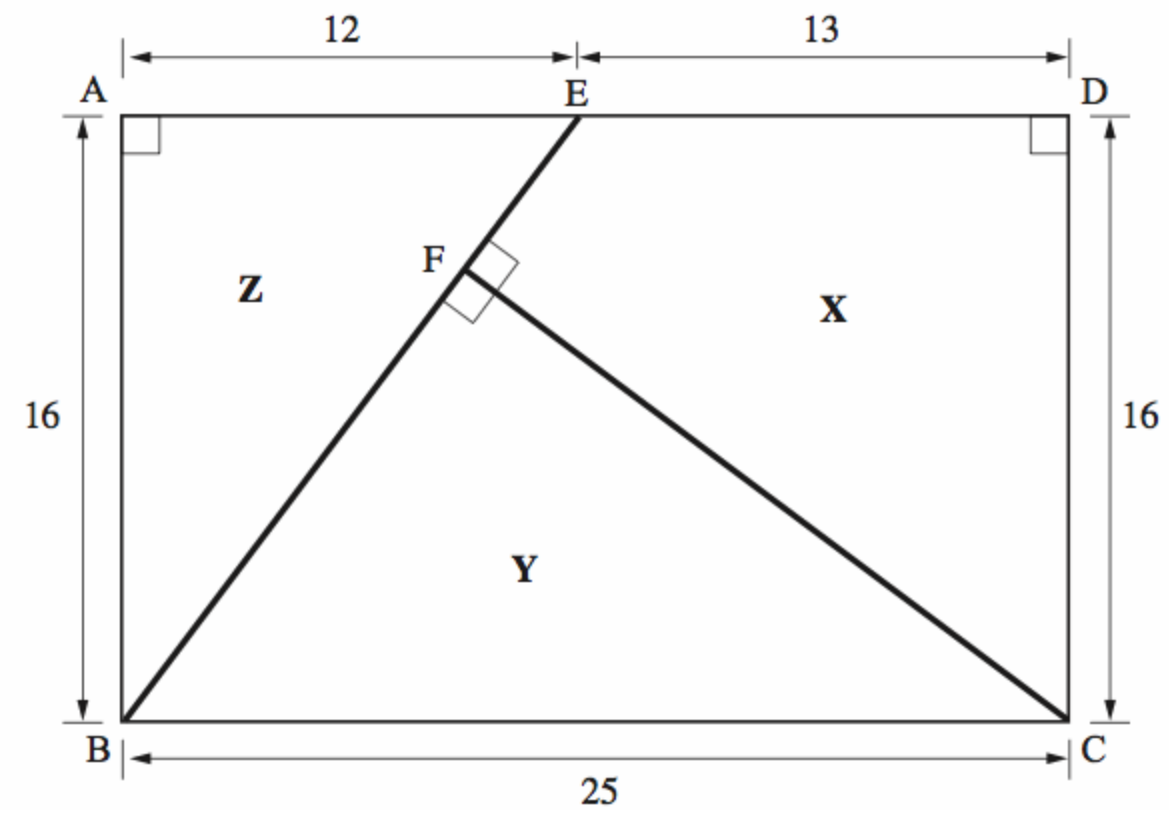
MARS Task: Rectangle and square

A rectangle 25 centimeters long and 16 centimeters wide is divided into two right triangles and a quadrilateral, as shown below. The two triangles **Y** and **Z** are similar.



1. Calculate the lengths of the sides of the two triangles **Y** and **Z**, and the sides of the quadrilateral **X**.

BE = _____cm **BF** = _____cm

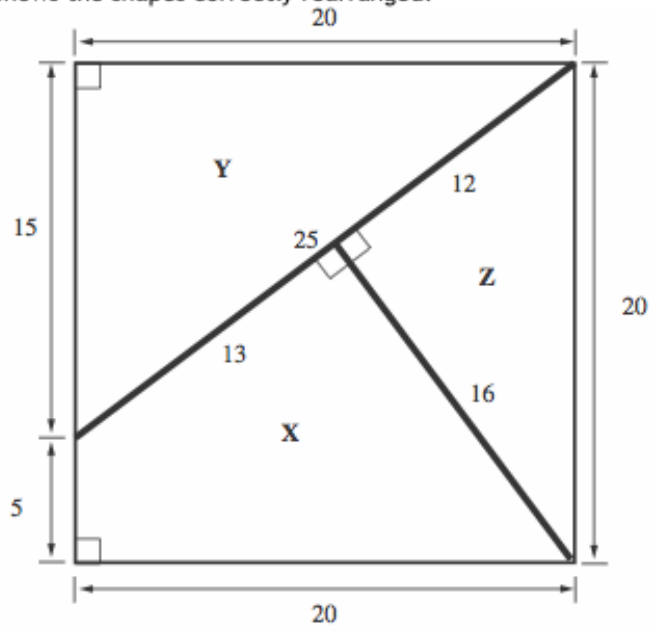
FE = _____cm **FC** = _____cm

2. Draw a diagram to show how the two triangles and the quadrilateral can be rearranged to make a square.

What is the length of each side of the square? _____cm
Explain your reasoning.

Scoring rubric

The following scoring rubric was developed specifically for this task and can be used to evaluate your students' work.

	Rectangle and square	Points possible	Total section points possible
1.	Gives correct answers as: **BE** = 20 cm **BF** = 15 cm **FE** = 5 cm **FC** = 20 cm	4 X 1	4
2.	Shows the shapes correctly rearranged.  	2	4
	Gives correct answer as: Each side of the square is 20 cm.	1	
	Gives correct explanation such as: The area of the rectangle is 25 x 16 = 400 square cm, the area of the square must also be 400 square cm.	1	
Total points possible for task			8